Enhancing China–Africa Cooperation in the Renewable Energy Sector

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Access to affordable and sustainable electricity is of fundamental importance to development in much of Africa. But, while access to electricity is improving, contributions from non-hydropower renewable energy sources remain small. At the same time, China – the powerhouse of solar energy technologies – has made limited contribution to harnessing Africa's renewable energy. Combining insights from **recent webinars** and research, this Policy Briefing discusses how China–Africa cooperation on renewable energy could lead to improvements in access to and supply of affordable and sustainable energy in Africa. Recommendations for African and Chinese policymakers and businesses include the adoption of transparent, competitive, and locally inclusive energy procurement and use mechanisms.

Key messages

- Access to electricity in Africa has improved over the past five years but, partly due to the Covid-19 pandemic, investment is declining.
- Challenges to the deployment of renewable energy in Africa could be overcome through effective cooperation with China, a global leader in renewables.
- This would bring mutual benefits. Africa presents untapped market potential due to its rich endowment in renewable energy sources. Improved access to affordable and sustainable electricity and technology transfer would benefit citizens across Africa.
- It would also contribute towards meeting global and national commitments on climate change and access to electricity in the SDGs.
- But, for local communities to benefit, a more transparent and inclusive governance framework must be established.

“China–Africa cooperation on renewable energy could lead to improvements in access to and supply of affordable and sustainable energy.

Seife Ayele, Wei Shen, Frangton Chiyemura and Jing Gu

The challenge of renewable electricity supply in Africa

Despite being **rich in renewable energy resources**, Africa is yet to generate sufficient electricity for its growing population and economies; currently, at least 579 million Africans have no access. Even among those with grid access to electricity, supply is often unreliable due to poor transmission and distribution networks, resulting in excessive costs to businesses and households. Significant progress has been made to increase investment and improve access but, since the Covid-19 pandemic, **investment has declined by around 30 per cent**. This threatens to reverse the progress being made to improve access to electricity across Africa.

Tackling energy supply to improve access to electricity is a defined objective of many African governments and the African Union in order to enhance economic development, improve livelihoods, and ensure environmental sustainability. Simultaneously, the ambition is to meet global commitments, including SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all – and the Paris Agreement objective to limit global warming to well below 2°C.

The opportunity of global cooperation

China dominates the global renewable industry, particularly the solar photovoltaic (PV) sector. It has unparalleled manufacturing capacity of solar panels – eight of the top ten world suppliers are Chinese – while its domestic annual **installment on solar capacity reached over 30 gigawatts** in 2019. However, Chinese export and investment in the African renewable energy market is still limited. Less than 5 per cent of Chinese energy projects in Africa are focused on renewable energy sources such as wind and solar.

More broadly, there is increasing pressure on China to promote cleaner energy solutions outside its borders, particularly through its ambitious geopolitical programme known as the Belt and Road Initiative (BRI). In 2017, Chinese ministries, led by the newly restructured and empowered Ministry of Ecology and Environment, announced guidelines to develop a green BRI. This was the first time an official stance was clearly expressed away from the current high-carbon paradigm, although it is unclear how such visionary policy goals will be implemented. It was followed by an announcement by President Xi Jinping that **China would achieve carbon neutrality by 2060**.

Across sub-Saharan Africa, China's renewable energy involvement has been growing. For example, the Africa Renewable Energy Initiative (AREI) and the China–Africa Renewable Energy Cooperation and Innovation Alliance have signed a Memorandum of Understanding to cooperate in renewable energy generation in Africa to combat climate change and promote sustainable development. There is a wider consensus that it is important for Chinese companies and financial institutions to act in line with these goals.

Barriers to success

Obstacles between Chinese and African cooperation on renewable energy include:

- The debt burden that African utilities and government treasuries face;
- Many African governments do not prioritise renewable energy deployment in policy messaging;
- China's fragmented and bureaucratic system for governing overseas energy activities;
- Chinese actors tend to focus on securing specific projects rather than capacity building;
- Low or no transparency in project approval processes and bureaucratic hurdles (complexity and inconsistencies of regulatory guidelines);
- Low levels of African private sector involvement and low technical capacities; and,
- Inadequate stakeholder engagement and consultation between local actors and Chinese businesses.

African utility companies and treasuries are debt ridden. While **many sub-Saharan African countries are highly indebted**, governments borrowed further for large energy infrastructure projects. Chinese companies have typically preferred proposals sponsored by African governments over open procurement of renewable energy, which tends to rule out smaller (often mini-grid and off-grid) projects with higher energy access benefits, particularly in rural areas. In addition, Chinese renewable energy companies are less aligned to competitive energy procurement models that include project finance arrangements. This means that Chinese state-owned companies and financiers are less open to alternative project financing and delivery models for renewable energy projects. As a result, the capacity of Chinese companies to support renewable energy projects is highly sensitive to the sovereign debt situation in major African partners.

Many African governments do not prioritise renewable energy deployment in policy messaging. Without clear policy messages signalling a prioritisation of renewable energy deployment, the confidence of investors to make long-term plans can be compromised. A related challenge is the bureaucracy associated with project approvals, which brings a high transaction cost. While renewable energy projects can provide multiple benefits, including energy access, employment, technology transfer, and industrial development, it is hard to achieve all in one project or programme. Governments must set out clear policy priorities to better inform investors and improve project proposal administration.

China has a fragmented and bureaucratic system for governing overseas energy activities. Several key ministries are involved, which brings a coordination cost. Moreover, larger projects with higher political attention tend to get approval more quickly, which further discriminates against smaller-sized renewable energy projects compared to mega-sized hydropower, coal-fired, or nuclear power stations.

Chinese actors tend to focus on securing specific projects rather than capacity building. Many African countries are facing multiple challenges in transforming their energy systems amid urgent needs to enhance capacity building for sustainable energy transition. To date, there has been limited intellectual input from Chinese public and private actors to engage with capacity building efforts. Rather than China's engagement in Africa's energy sector being a state-led political project, most of the Chinese activities to date are commercially oriented and driven by individual Chinese companies.

There is inadequate stakeholder engagement and consultation between local actors and Chinese businesses. Most Chinese state-owned enterprises are highly efficient and pragmatic in project implementation. Their primary goal is delivering projects on time, but they tend to overlook the importance of developing good community relations. As a result, Chinese companies' engagement with local communities is normally project based, uncoordinated, and relies heavily on local agents or well-connected individuals. Local employment can often involve unskilled or semi-skilled jobs, with staff having either no or less-formal contracts and no work-related assurances. Chinese construction teams often live on a separate site, contributing to minimal engagement with local communities. This can lead to friction, particularly when many of the resulting energy projects do not provide electricity to nearby villages. Local community dissatisfaction has become an increasingly notable factor in delaying or even deterring renewable energy projects.

A central policy challenge for China, and for its African partners, is one of focus within the wider frame of multiple policy domains and sustainable development trajectories. From a people-centred development perspective, the key requirement of energy programmes is to ensure that the pro-poor aims of the multiple policy strands of climate mitigation, green growth, energy access, and renewable energy are mainstreamed and prioritised.

Policy recommendations

Recommendations are made to realise improvement in access to affordable and sustainable electricity.

From an African perspective:

- Governments should set clear and realistic policy goals for renewable energy deployment with specific implementation roadmaps.
- Institutional reform is necessary to reduce the transaction costs related to developing renewable energy projects. For example, standardising procurement processes may push more Chinese companies to enter the open bidding process.
- Prioritise green energy projects and energy access during and after the Covid-19 pandemic, particularly in negotiations with Chinese stakeholders.
- African governments should nurture local industry in the renewable sector alongside devising mechanisms to increase local expertise, such as through skilled workforce participation and technology transfer.

From a Chinese perspective:

- Chinese state companies and banks must develop more flexible and innovative instruments to support smaller-scale renewable energy projects, particularly in rural areas across Africa. Private companies should be encouraged to explore African markets.
- Chinese policymakers should invest in capacity building (including the regulators and utilities) in the African energy sector. A better understanding of host countries' renewable energy ambitions would help focus efforts to develop sustainable electricity projects in line with national strategies.

Chinese regulators and companies should prioritise engagement with local communities to ensure projects meet local needs. Project selection and screening must be driven by local community energy needs and socioeconomic contexts.

Overall:

- Improving renewable energy investment in Africa requires significant institutional adjustments to existing governance models.
- Additional efforts are needed from both Chinese and African partners, including policy synchronisation across established areas of China–Africa agreement.
- A strengthened commitment from China to 'bottom-up' local participation, community dialogue, and cooperation in African societies will ensure that engagement is not only at the level of governments but also includes community knowledge and interests. ■

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Further reading

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